

WHAT IS CLAIMED IS:

1. A method for processing contents associated with blocks of a non-volatile memory, the non-volatile memory being associated with a memory system, the method comprising:
  - 5 obtaining a first set of contents, the first set of contents being associated with a first logical group of first logical block, the first group including a first plurality of logical pages associated with the first logical block, the first logical block being substantially mapped to a first physical block;
  - 10 writing the first set of contents into a memory area;
  - writing the first set of contents from the memory area into a first physical group of a second physical block, the first physical group including a first plurality of physical pages associated with the second physical block; and
  - mapping the second physical block to the first logical block.
- 15 2. The method of claim 1 wherein the first physical block includes a second set of contents, the method further including:
  - writing at least some of the second set of contents into the second physical block with the first set of contents.
- 20 3. The method of claim 2 further including:
  - erasing the second set of contents from the first physical block; and
  - substantially unmapping the first physical block from the first logical block.
- 25 4. The method of claim 3 further including:
  - erasing the first set of contents from the memory area.
5. The method of claim 1 wherein the first physical block includes a second set of contents, the method further including:
  - 30 writing the second set of contents into the memory area.

6. The method of claim 5 wherein writing the first set of contents into the memory area includes overwriting at least some of the second set of contents in the memory area.
- 5 7. The method of claim 6 wherein the memory area is a RAM cache.
8. The method of claim 1 wherein the first set of contents includes an update associated with the first logical block.
- 10 9. The method of claim 1 further including:  
obtaining a third set of contents, the first set of contents being associated with a second logical group of the first logical block, the second logical group including a second plurality of logical pages associated with the first logical block;  
writing the third set of contents into the memory area; and
- 15 writing the third set of contents into a second physical group of the second physical block, the second physical group including a second plurality of physical pages associated with the second physical block.
10. The method of claim 9 further including:  
20 determining when there is substantially no other set of contents associated with the first logical block to be obtained, wherein when it is determined that there is substantially no other set of contents to be obtained, the first set of contents and the third set of contents are written into the memory area.
- 25 11. The method of claim 10 wherein determining when there is substantially no other set of contents associated with the first logical block to be obtained includes determining when a second logical block is to be updated.
- 30 12. The method of claim 10 wherein when it is determined that the second logical block is to be updated, the method further includes:

substantially immediately obtaining the second physical block; and  
substantially immediately writing the first set of contents and the third set of  
contents into the second physical block.

5      13.     The method of claim 12 wherein obtaining the second physical block includes  
mapping the second physical block to the first logical block.

14.    The method of claim 13 further including:  
erasing the second set of contents from the first physical block; and  
10     substantially unmapping the first physical block from the first logical block.

15.    The method of claim 1 further including:  
obtaining the second physical block; and  
mapping the second physical block to the first logical block.

15     16.    The method of claim 1 wherein the first physical block is not arranged to  
accommodate the first set of contents.

20     17.    The method of claim 1 wherein the memory area is one of a third physical block  
and a RAM cache.

18.    The method of claim 1 wherein the non-volatile memory is a NAND flash  
memory.

25     19.   A method for processing updated contents associated with a first logical block  
within a non-volatile memory system, the first logical block being mapped to a first  
physical block, the method comprising:  
receiving a first update associated with the first logical block, wherein the first  
update is an update to a first logical group of the first logical block, the first logical group

- being arranged to include a first plurality of logical pages associated with the first logical block;
- storing the first update into a cache;
- determining when to store contents of the cache into a second physical block, the
- 5 contents of the cache including the first update;
- storing the contents of the cache into the second physical block when it is determined that the contents of the cache are to be stored into the second physical block, wherein storing the contents of the cache includes storing the first update into a first physical group in the first physical block, the first physical group including a first
- 10 plurality of physical pages included in the first physical group;
- mapping the second physical block to the first logical block after the contents of the cache are stored into the second physical block; and
- unmapping the first physical block from the first logical block after the contents of the cache are stored into the second physical block.
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20. The method of claim 19 wherein determining when to store the contents of the cache into the second physical block includes determining when a second logical block is to be processed, and wherein when it is determined that the second logical block is to be processed, the contents of the cache are stored into the second physical block.
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21. The method of claim 19 further including:
- obtaining the second physical block.
22. The method of claim 19 wherein the contents of the cache include at least some
- 25 contents associated with the first physical block.
23. The method of claim 22 further including:
- copying contents of the first physical block into the cache, wherein when the first update is stored into the cache, the first update substantially overwrites at least a portion
- 30 of the copied contents associated with the first physical block.

24. The method of claim 23 wherein the cache is a RAM cache.
25. The method of claim 19 wherein determining when to store the contents of the cache into the second physical block includes determining when a second logical block is to be processed, and wherein when it is determined that the second logical block is to be processed, at least some of the contents of the cache are stored into the second physical block.
- 10 26. The method of claim 25 further including:  
storing at least some of the contents of the first physical block into the second physical block when it is determined that the second logical block is to be processed.
- 15 27. The method of claim 25 further including:  
erasing the first physical block after at least some of the contents of the cache are stored into the second physical block.
28. The method of claim 25 wherein the cache is a physical block cache.

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